REMARKS/ARGUMENTS

1.) Claim Amendments

The Applicant has amended claims 1-4, 6-19, 21, 23-25, 27-28, 30-36, 38-51, 53, 55-57, 59-60; 62-64 and claims 26 and 58 have been canceled. Accordingly, claims 1-25, 27-57, and 59-64 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Claim Rejections – 35 U.S.C. § 102(b)

The Examiner rejected claims 1, 10-21, 33 and 42-53 under 35 U.S.C. § 102(b) as being anticipated by Whinnett, et al. (US 5,625,875). The Applicant respectfully traverses this rejection.

For instance, claim 1 states:

> 1. A method for use in improving reliability and communication quality in a cellular radio communication system which includes at least a first radio base station having associated radio channels with uplinks and downlinks using different carrier frequencies, the method characterized by comprising:
>
> determining whether one of a first uplink or a first downlink of a first radio channel *is subject to a Rayleigh fading dip*, the first radio channel being used during a current communication segment for communications between the first radio base station and a first radio terminal; and
>
> determining whether to execute a countermeasure in order to counteract the negative influences of Rayleigh fading, *if it is determined that one of the first uplink or the first downlink is subject to a Rayleigh fading dip*.

Thus, claim 1 determines whether an uplink *is subject to a Rayleigh fading dip*. In contrast, Whinnett simply measures the "quality of the communications for each active uplink during a time frame M." (Whinnett, col. 3, lines 24-26). Whinnett recognizes that "quality may be measured in terms of error detection and/or signal strength." However, measuring quality is not the same as determining whether a radio channel is subject to a Rayleigh fading dip. Adverse quality can stem from a number of reasons, including poor power levels, weather conditions, scatter, Rician fading,

Nakagami fading, and Rayleigh fading. Whinnett discusses Rayleigh fading only once and only in the context of explaining Fig. 3 which is "a graph plotting signal to noise measurements and word error rate for an embodiment of the present invention." In other words, Fig. 3 simply shows the results of one embodiment. However, nothing in Whinnett indicates that Rayleigh fading was determined by any embodiment. Whinnett, therefore, does not teach nor suggest the step of determining whether an uplink *is subject to a Rayleigh fading dip.*

Because Whinnett does not teach all of the claim elements, the withdrawal of the 102 rejection is respectfully requested. As the examiner is aware, to sustain a 102 rejection, ALL elements of the claim must be taught by the cited art. As the Federal Circuit held:

> Under 35 U.S.C. §102, anticipation requires that each and every element of the claimed invention be disclosed in the prior art. . . . In addition, the *prior art reference must be enabling*, thus placing the allegedly disclosed matter in the possession of the public. *Akzo N.V. v. United States Int'l Trade Comm'n*, 1 USPQ 2d 1241, 1245 (Fed. Cir. 1986), *cert. denied*, 482 U.S. 909 (1987) (Emphasis Added)

Thus, a 102 rejection is not appropriate in this situation because all the elements of claim 1 are simply not taught by Whinnett. Assuming, for the sake of argument that all the elements are somehow implied, Whinnett would still not be a proper reference because *Whinnett does not provide enough detail about the missing elements to enable one skilled in the art* to practice the claimed invention. Thus, a 102 rejection is improper.

Claims 10, 33, and 42 contain similar claim elements. Thus, the 102 rejection for these claims should also be withdrawn. Claims 11-21 and 43-53 depend from claims 1, 10 and 42, and recite further limitations in combination with the novel elements of these claims. Therefore, the allowance of claims 11-21 and 43-53 is also respectfully requested.

3.) Claim Rejections – 35 U.S.C. § 102(e)

The Examiner rejected claims 26-32 and 58-64 under 35 U.S.C. § 102(e) as being anticipated by Soininen, et al. (US 6,434,130). Claims 26 and 58 have been deleted without prejudice solely for the reason of expediting the allowance of this application. So, this rejection with respect to claims 26 and 58 are deemed to be moot. With respect to the other claims 27-32 and 59-62, the Applicant respectfully traverses this rejection.

For instance, claim 27 states:

> 27. A method for determining whether one of a first uplink or first downlink of a first radio channel is subject to a Rayleigh fading dip, the first radio channel being used during a current communication segment for communications between a first radio base station and a first radio terminal, the method comprising:
> obtaining a gain of the first uplink;
> obtaining a gain of the first downlink; and
> comparing the gain of the first uplink to the gain of the first downlink in order to deduce whether one of the first uplink or the first downlink is subject to a Rayleigh fading dip, wherein the comparing includes:
> determining an offset associated with a difference between the gain of the first uplink and the gain of the first downlink during the current communication segment; and
> determining whether one of the first uplink or the first downlink is subject to a Rayleigh fading dip *by monitoring how the difference between the gain of the first uplink and the gain the first downlink deviates from the offset*.

Soininen does not appear to teach determining whether a link is subject to a Rayleigh fading dip *by monitoring how the difference between the gain of the first uplink and the gain the first downlink deviates from the offset*. While Soininen appears to recognize a difference between an open loop estimate and the closed loop estimate, there is no monitoring and there is analysis of the deviation of the gain to the offset. The Examiner cites column 1 and line 63 to column 2 and line 8 for support of the rejection. This section is reproduced below:

> It is highly frequency-selective, and therefore the fast-fading process between different radio frequencies is independent. Thus fading might

> occur at one frequency and not at another, even if the same paths are used. In frequency division duplexed (FDD) systems, where uplink (the link from mobile station to base station) and downlink (the link from base station to mobile station) transmissions are transmitted on different frequencies, closed-loop power control is required to be able to take the difference between link directions into account.

The Applicant does not understand how the above passage teaches "determining whether one of the first uplink or the first downlink is subject to a Rayleigh fading dip *by monitoring how the difference between the gain of the first uplink and the gain the first downlink deviates from the offset*." Thus, the Applicant respectfully submits that Soininen does not teach this element. A 102 rejection with respect to claim 27, therefore, is improper and should be withdrawn.

With respect to claims 28-31 and 60-63, the Examiner admits that Soininen does not teach establishing an average of the difference power gain between uplink and downlink. However, the Examiner argues that such an element is "well known in the art." Whether an individual element is "well known" or not is not relevant to a §102 analysis. According to MPEP 706.02:

> The distinction between rejections based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. *In other words, for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly.* Any feature not directly taught must be inherently present. Whereas, in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims.

Because each and every element is not taught by the Whinnett, a 102 rejection is not appropriate for claims 27, 28-31. For the same reasons, a 102 rejection is not appropriate for claims 58-60. The Applicant, therefore, respectfully requests that the 102 rejection for claims 27, 28-31 58-60 be withdrawn. Claims 32 and 64 depend from the independent claims and recite further limitations in combination with the novel elements of the independent claims. Therefore, the allowance of claims 32 and 64 is also respectfully requested.

4.) Claim Rejections – 35 U.S.C. § 103(a)

The Examiner rejected claims 2 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Whinnett in view of Bustamante, et al. (US 4,752,967). The Applicant respectfully traverses this rejection.

As explained above, claims 2 and 34 determines whether an uplink *is subject to a Rayleigh fading dip*. In contrast, Whinnett simply measures the "quality of the communications for each active uplink during a time frame M." (Whinnett, col. 3, lines 24-26). Bustamante does not even appear to address Rayleigh fading. Bustamante deals with atmospheric attenuation in satellite communications (Bustamante col. 2, lines 26-28).

As provided in MPEP § 2143, "[t]o establish a prima facie case of obviousness, ... the prior art reference (or references when combined) *must teach or suggest all the claim limitations*." Furthermore, under MPEP § 2142, "[i]f the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness." It is submitted that the Office Action does not factually support a prima facie case of obviousness for claim 2 and 34 based on Whinnett and Bustamante because all the claim elements are not taught.

The Examiner rejected claims 3-9, 12, 22-25 and 35-41, 44, 54-57 under 35 U.S.C. § 103(a) as being unpatentable over Whinnett and Bustamante, and further in view of Soininen. The Applicant respectfully traverses this rejection.

As explained above, claim 3 determines whether an uplink *is subject to a Rayleigh fading dip*. In contrast, Whinnett simply measures the "quality of the communications for each active uplink during a time frame M." (Whinnett, col. 3, lines 24-26). Additionally, Soininen does not appear to teach determining whether a link is subject to a Rayleigh fading dip *by monitoring how the difference between the gain of the first uplink and the gain the first downlink deviates from the offset*. While Soininen does appear to recognize a difference between an open loop estimate and the closed loop estimate, there is no monitoring and there is analysis of the deviation of the gain to the offset. However, as explained above in reference to the §102 rejection, the Applicant does not believe that this element is taught by Soininen.

As provided in MPEP § 2143, "[t]o establish a prima facie case of obviousness, ... the prior art reference (or references when combined) *must teach or suggest all the claim limitations*." Because all the limitations of claims 3 and 35, (i.e., a *monitoring how the difference between the gain of the first uplink and the gain the first downlink deviates from the offset*), are not taught by the combination of references, a 103 rejection is improper. The Applicant respectfully requests that this rejection be withdrawn.

Claims 4-9 depend from amended claim 3, and recite further limitations in combination with the novel elements of claim 3. Claims 36-41 depend from amended claim 35, and recite further limitations in combination with the novel elements of claim 3. Therefore, the allowance of claims 36-41 is respectfully requested. Claims 12, 22-25 have been amended to depend from claim 3 and claims 44 and 54-57 have been amended to depend from claim 35. Thus, these claims recite further limitations in combination with the novel elements of claims 3 and 35. Therefore, these claims are allowable for the same reasons that claims 3 and 35 are allowable.

5.) Official Notice and use of what is "well known in the art."

The Examiner used what is "well known in the art" to justify the 102 rejection of claims 28-31 and 60-63 and the 103 rejection of claims 4-7 and 36-39. The examiner used "official notice" to justify the rejection of claims 25 and 57. To the extent that these rejections are still applicable, the Applicant respectfully traverses these uses of official notice.

As the Examiner is aware, in order preserve the Applicant's right to traverse this assertion in later actions, the Applicant must traverse these assertions in this Office Action. Thus, the Applicant respectfully traverses the assertion that these limitations are obvious in light of what is "well known in the art" and, as permitted under MPEP § 2144.03, requests that the Examiner cite a reference in support of his position for each rejected claim.

Regarding the use of official notice, the Applicant respectfully objects to the Examiner's use of official notice. Under MPEP § 2144.03, official notice may only be taken of "facts outside of the record which are capable of instant and unquestionable

demonstration as being 'well-known' in the art." When a rejection is based on facts within the personal knowledge of the Examiner, the facts must be as specific as possible, and the reference must be supported, when called for by the applicant, by an affidavit of the Examiner, which may be subject to explanation by the Applicant. 37 CFR 1.104(d)(2). Pursuant to 37 CFR 1.104(d)(2), the Applicant respectfully requests the Examiner provide such supporting facts and evidence in the form of an affidavit, so that, if necessary, the Applicant may have a chance to explain the reference in later actions.

6) The Combination of References is Improper:

Even if none of the above arguments for non-obviousness apply (which is clearly not the case based on the above), there is still another, mutually exclusive, and compelling reason why the cited patents cannot be applied to reject claims under 35 U.S.C. § 103.

Section 2142 of the MPEP also provides:

> *...the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made.....The examiner must put aside knowledge of the applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed "as a whole".*

Here, none of the cited references teaches, or even suggests, the desirability of the combination "a method for determining whether one of a first uplink or a first downlink of a first radio channel is subject to a Rayleigh fading dip."

As the Federal Circuit has explained:

> Most if not all inventions arise from a combination of old elements . . . Thus, every element of a claimed invention may often be found in the prior art. *See id.* However, *identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See id.* Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability *of making the specific combination* that was made by the applicant. In re Kotzab, 217 F.3d 1365, 1369 (Fed. Cir. 2000).

In this context, the MPEP further provides at § 2143.01:

> *The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.*

In the above context, the courts have repeatedly held that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. In other words, the case law is clear that there must be *evidence* that a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. It is also clear that a rejection cannot be predicated on the mere identification of individual components of claimed limitations. Rather, particular findings must be made as to the reason the skilled artisan, *with no knowledge of the claimed invention*, would have selected these components for combination in the manner claimed. *Ecolochem Inc. v. Southern California Edison*, 56 USPQ2d 1065, 1076 (Fed. Cir. 2000). Here, no such evidence has been presented. In addition, there is absolutely no teaching, suggestion or motivation to support the combination of the cited references.

The current case law makes it clear that the best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art references. See *In re Dembiczak*, 50 USPQ2d, 1614, 1617 (Fed. Cir. 1999). "Combining prior art references without ***evidence*** of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight." *Id.* It is respectfully submitted that the only way the cited references could be pieced together to defeat patentability is indeed to use Applicant's disclosure as a blueprint. Therefore, the combination of references is improper.

In the present case it is clear that the combination arises solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in either reference for the combination as applied to claims. Therefore, for this mutually exclusive reason, the examiner's burden of factually supporting a *prima facie* case of

obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

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